



Commercial Off-shore Petroleum Discharge System (OPDS)

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29 September 2**

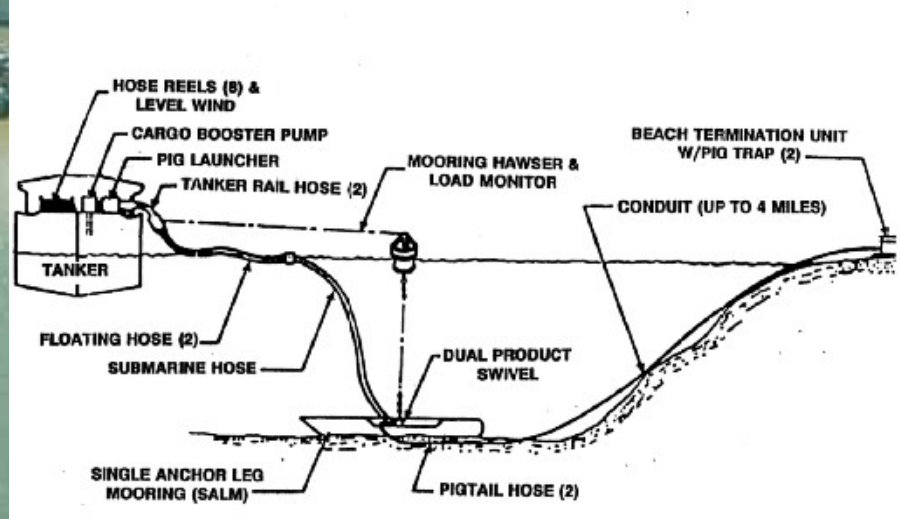
Mission of MSC

- The MSC mission is to provide ocean transportation services for the Department of Defense in peace time and in war.
- We perform this function by leveraging civilian commercial industry.

Current OPDS System

- 4 Govt owned OPDS tankers 36-43 years old
 - 2 Forward deployed, 2 in Reduced Operating Status
- System designed in early 80s
- Major weaknesses:
 - Old technology/equipment
 - Steam powered 1960's single hulled tankers
 - Sea/Wind/Weather dependent
 - Extremely complex system
 - 200 people required to deploy





History

- OPDS developed in early 80s utilizing off the shelf commercial technology.
- Requirement developed based on predecessor systems and what appeared to be the capabilities of the available equipment.
- System was entirely government owned, deployed by military personnel, from a government owned contractor operated tanker.
- 1997 MSC proposed letting commercial industry provide a contractor owned contractor operated performance based solution.
- Conducted two Market Surveys with significant

Requirements

1984 Requirement	2003 Requirement
Deliver 1.2M gallons per 20 hour day	Deliver 1.7M gallons per 20 hour day
Deliver fuel from 4 miles off-shore Deliver 2 products from 2 miles	Deliver fuel from 8 miles off-shore Single product
Install in up to five foot waves	Install in up to six foot waves
Install with up 1.5 Knot surface current	Install with up 3 Knot surface current
Install with winds up to 16 knots	Install in wind up to 30 knots
Install over bottom of Mud, Sand or Coral	Install over bottom of Mud, Sand, Rock, Shell or Coral
Deliver product in the following conditions: 40-knot wind 12-foot waves 4-kot current 1.5-knot cross current	Deliver product in the following conditions: 42-knot wind 12-foot waves 5-kot current 1.5-knot cross current 13-20 foot tidal range

Requirement

- Pump 1. 7M gallons/ 20 hour day
- Deliver product from up to 8 miles offshore
- Install in:
 - Winds to 40 kts
 - Waves to 6 ft
 - Current 3 kts
 - Tidal Range 13-20 ft
- Survive winds to 42 kts, waves to 12 ft, and 5 kts current
- Deliver Fuel 48 hours after arrival
- Retrievable within 72 hours and reusable
- Deployable in Water depth 20 to 200 ft
- Able to utilize standard commercial tanker or a fuel barge

Commercial Capabilities

- **Experts are the commercial industry**
 - Conditions in the commercial world are extreme
- **Off shore Petroleum Delivery-**
 - Commercial capability demonstrated every day in the world's oil fields
- **US Defense Policy-**
 - Leverage commercial capabilities
- **Risk Reduction through the use of mature processes**
 - Use off the shelf equipment unless unique design mandatory
- **MSC proposal-**
 - Requirements based charter for **turn key** system
 - Commercial equipment, provided and operated by US civilians.

Proposal

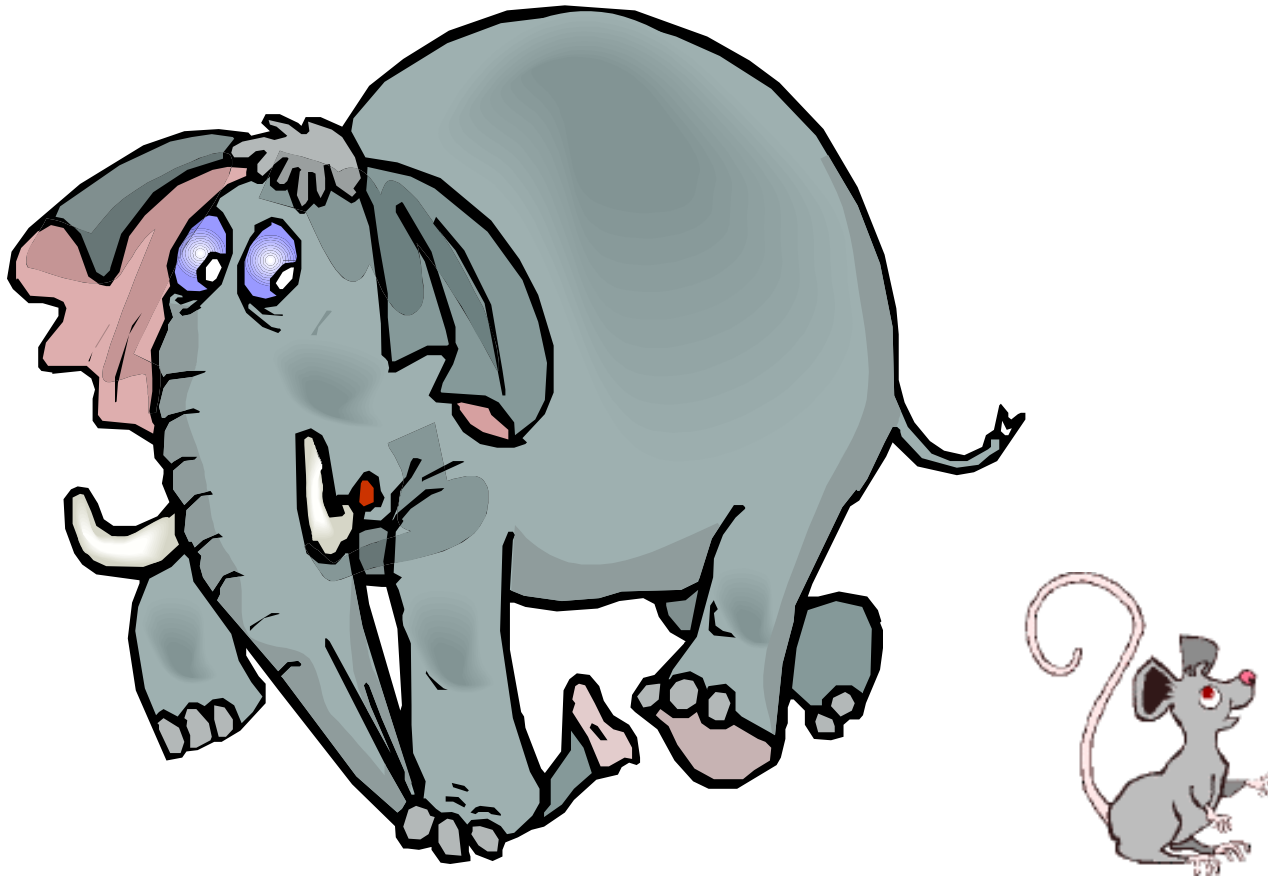
- Replace 1 or both of the 2 deployed prepositioned OPDS.
- Chartered System –
 - Contractor provides all personnel required to deploy and operate all components
 - Design and equipment to be utilized at total discretion of contractor
 - Proposals judged on ability to perform mission under specific conditions
- Contract will be for a single system with an option for a second vessel
 - Option to be exercised within one year of the delivery of the first vessel

Considerations

- Replace single skin OPDS tankers with “on call” modern Double hulls
- Separating System from Tanker increases flexibility:
 - Reduce number of tankers
 - Shallow water ops would be feasible.
 - Supply different product as required.
- Commercial time charter
 - Fleet recapitalization without capital investment
 - Leverage commercial industry in training
 - Increase ability to reengineer rapidly
- Two Exercise deployments/yr included in rate.

MSC Acquisition Strategy

- RFP for commercial time charter
- Detailed performance spec for 5 year charter
- IPT: MSC, DESC, NAVSEA, PACOM, USTC, JCS-J4
- Take delivery upon full demonstration of capability (18 months after award of contract)



Current OPDS, a Mouse to Government Specifications

Factors



Pass/
Fail

Technical Acceptability



Best
Value

System Performance

Technical Capability and Military Utility

Price

Past Performance

Quality Control

U.S. Shipyard New Build



*Best Value
Factors
In Descending
Order of Importance.*

Best Value

BASIS FOR BEST VALUE VICE LOW COST TECHNICALLY ACCEPTABLE

- Efficient/reliable response to warfighter needs is mission critical regardless of price
- Industry innovations beneficial to the Government may come at additional cost
- Greater performance risk lends itself to best value

Source Selection Evaluation Factors

System Performance (degree of confidence in fully meeting min capabilities)

- **Risk reduction** through use of mature processes.
 - Technology proven in commercial industry.
- **High mean time between failure** for all components and system as a whole.
 - Technology uncomplicated/straight forward so as not to raise any doubts about performance.
- **Designed to be installed and operated in weather conditions greater than minimum** described in technical requirement
- **Detailed engineering analysis**, (particularly required if new technology)

Source Selection Evaluation Factors

Technical Capability and Military Utility

- **Flexibility**
 - Different bottom conditions
 - Ability to survive / be installed in higher sea states
 - Deliver fuel from more than 4 miles.
 - Be installed and operate in less than 35ft of water
 - Be installed in sea state 3 in less than 48 hours.
- **Simplicity**-Minimum :
 - Personnel required
 - Specialized mission specific training
 - Mission unique equipment
 - Need for small boats/divers
- **Multiple Mission Support**
- **Cold water Operation (below freezing)**

Timeline

Task	Start	Finish
Decision to proceed	23-Sep-03	23-Sep-03
Issue Solicitation	31-Oct-03	31-Oct-03
Receive Initial Offers	5-Mar-04	5-Mar-04
Presentations	5-Apr-04	6-Apr-04
Technical, Price, Past Performance evaluations	5-Mar-04	12-Jul-04
Revised Proposals	2-Jun-04	2-Jun-04
Discussions/Negotiations	26-Jul-04	6-Aug-04
Receive Revised Technical Proposals	13-Aug-04	13-Aug-04
Contract Award (Estimated)	Oct-04	Oct-04
Delivery of OPDS System (Estimated)	Apr-06	Apr-06
OPDS System Demonstration (Estimated)	Apr-06	Apr-06
OPDS On Hire (Estimated)	May-06	May-06
Review Reqt for 2nd System Opt (Estimated)	May-06	May-06

Conclusion

- Commercial industry is ready to provide the next generation of OPDS now.

Back up

Multi-Mission Vessel



- Open ocean tow
 - Vessels up to 63,000 DWT, minimum bollard pull 50 tons.
- Auxiliary fireboat in remote locations.
 - 2,000 GPM of water at 125 PSI.
- Chemical, Biological, Radiological decon support to MSC chartered and government owned vessels.
 - 200 cubic feet of storage for additional equipment
 - Additional government supplied training for 6 crew members.
- Inclusion of other capabilities:
 - Significantly improves readiness of APF
 - Reduces Risk

Civilian versus Military

- **Current OPDS installed by military**
- **OPDS not combat system**
 - Military personnel not required to install
 - OPDS tankers operate < 4 miles from shore by civilians.
- **Nothing militarily unique in this mission**
- **Current system designed by contractors**
 - All military training provided by contractors
- **Civilians do not require special training**

Operational Test

- Dynamic Positioning cable layer in ROS in Eastern Canada
- OPDS exercise could be conducted as a technology demonstration
- Est. Cost \$1.5M
- Location Virginia Coast
- Time to set-up 3-4 months

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SUBJECT: OVER THE SHORE POL DELIVERY FOR THE YEAR 2000 AND BEYOND -
CURRENT OPDS 85 PROGRAM OR ALTERNATIVE CONCEPT?

PURPOSE: To provide a recommendation to N00 regarding the future of the Offshore Petroleum Discharge System (OPDS) Program

BACKGROUND: See Tabs A and B for a brief background on OPDS operations and system hardware description.

MAJOR POINTS:

- Last two JLOTS exercises employing OPDS 85 have had incomplete results
 - Market Square 96 - held utilizing the SS MOUNT WASHINGTON moored off of Fort Story Virginia failed to achieve the exercise goals. Sections of conduit damaged in the process during tows in rough seas. Tanker mooring operations were difficult
 - Tandem Thrust 97 - held in Freshwater Bay in Australia, failed to achieve the exercise required pumping goals. Inclement weather conditions played a role here though not the sole reason for less than expected results
- Principle Problems with the Program
 - Aged, costly equipment and ships. Mid 80's technology that is maintenance and manpower intensive. SLWTs/ OUBs; SALMs; 6' Conduit. See Tab C.
 - Sea State/Weax condition sensitive - cannot operate effectively in greater than Sea State 2
 - Large support infrastructure required to manage this Program. Literally a cast of hundreds are required to maintain, deploy and operate one system. See Tab D.
 - Tanker vulnerability
 - Current OPDS Tanker must remain moored to the SALM for the system to work. Cannot utilize tanker of opportunity due to requirement for high pressure Leistritz product pumps installed on OPDS tanker
 - SLWT need
 - Currently, Side Loadable Warping Tugs (SLWTs) are required to assist in deployment of SALM and conduit. SLWTs come from either MPS or CAPE MOHICAN or both. (Introduction and use of OUBs eliminates need for SLWTs and makes FOS OPDS tankers "self sufficient". Not realized until PETERSEBURG deploys in mid '93)
 - Personnel/Training
 - Annual training costs for PHIBCBs exceeds \$650K per year
 - Rotation of key PHIBCB personnel generates continuing experience problems within key USN units critical to OPDS deployment - cautious, methodical, install technique
 - One OPDS deployment team comprised of
 - o 1150 PHIBCBs: 30 Divers from UCT; 10 Beach Master personnel to install and operate Beach Termination Unit (BTU); plus tanker crew
- Bottom Line ----> annual cost for one FOS OPDS system including tanker is conservatively estimated at \$15M; we have two. Tanker alone is \$11M; we have two in FOS. ROS Tankers are \$9M each and we have 3. Annual costs for OPDS gear, support equipment and improvements conservatively estimated at \$6M per year for the program.

RECOMMENDATION:

Develop and present to industry an OPDS services Market Survey. Industry has the expertise; they know the systems; hands on daily experience with the technology. Their response will appraise us of the depth of their capabilities as well as the status of current technology. This will be the first step in teaming with Industry to alter the course of this program for the year 2000 and beyond.

R. Ross Camardella/PM3/Signature

21 Nov 92
DATE

Offshore Petroleum Discharge System (OPDS)

Description of Initiative

- Reduce number of OPDS assets due to low usage
- As Is: 4 systems; 2 prepositioned, 1 ROS5, 1 layup
- To Be: 2 systems; 1 prepositioned, 1 ROS5

Issues

- 50% Reduction in capacity
- Only means to securely deliver fuel to forces ashore over unimproved port/beach
- N42 approves; however, **Joint approval required (J4)**

Recommendation

- Take in PR05

Financial

FY05 savings Savings

\$15.3M*
\$ 89.8M *

FYDP Savings

\$ 75.2M*

Tot Pgm

* DoD total savings:

Navy - \$ 3.3M
19.1M

\$ 16.0M

\$

DESC - \$12M
70.7M

\$ 59.2M

\$

Champion

- **PEO SHIPS / PMS 325**

POA&M

- Obtain approval from Joint requirements sponsor (VADM Holder J4)
 - 2nd Qtr FY04
- Shift current CONUS assets into NDRF
 - 4th Qtr FY04
- Return one pre-positioned asset to CONUS and put into ROS 5 status.
 - 4th Qtr FY04